



# STATE OF IDAHO



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## Q Fever Prevention in Livestock

A recent outbreak of *Coxiella burnetii* (the bacteria that causes Q fever) in goat herds in the state of Washington, in addition to several confirmed human cases in both Washington and Montana, has generated considerable talk amongst public health officials, state veterinarians and livestock producers. With cases of Q fever in humans on the rise in the U.S. over the last decade and the potential for Idaho livestock to gain exposure to herds in Washington, the Idaho State Department of Agriculture (ISDA) deemed it necessary to assess the herd infection status of Idaho livestock, in part, by screening dairy goat herds for *Coxiella*. During this assessment, milk samples were collected from thirty (30) raw milk dairy goat herds throughout the state; two (2) herds demonstrated *Coxiella* reactive samples. An antibody-detection test, known as an ELISA, was used to screen samples, but this test does not confirm the presence or absence of Q fever in the animal, only that the animal has been exposed to *Coxiella* at some point in the past. The positive samples were sent to Cornell University for molecular PCR testing. The PCR test is used to identify any bacteria DNA still present in the milk, suggestive of an active infection. Both samples were found to be negative for *Coxiella* DNA. A negative PCR test suggests that the Idaho goats likely never contracted Q fever, but at some point had come in contact with an infected animal. The outcome is encouraging not only from a public health standpoint, but also demonstrates the importance of why screenings and risk assessments exist and how they help protect the industry from disease outbreaks such as the one experienced in Washington. The ISDA emphasizes that the most effective tool for prevention of disease is the education of livestock producers on management practices that will maximize biosecurity, while minimizing animal and human exposure to infectious organisms. The following is a brief summary of the disease with appropriate preventative management techniques.

Q fever is a serious threat to production, causing abortion, stillbirths and weakened newborns in livestock, typically goat, sheep or cattle. *Coxiella burnetii* is a bacterium that is also contagious to humans. Q fever in humans usually presents as a fever and respiratory pathogen but can also affect other organs, including the heart, causing serious disease. Sheep and goats are the most likely source of infection for humans. The most common route of infection is through exposure to birthing fluids and fetal membranes from infected females or inhalation of dust from contaminated soil when these secretions become airborne. The possibility of humans contracting the disease via consumption of raw milk from an infected animal is considered extremely unlikely in healthy individuals. The pasteurization process is designed to eliminate harmful pathogens, including *Coxiella*, from retail milk

products. Producers and handlers working directly with the animals and their waste are at the greatest risk for infection.

Infected livestock may shed the bacteria in urine, feces, milk and vaginal secretions/fetal membranes. The organism itself may survive in the environment for years in dust or soil and can be carried via the airborne route for over 0.5 miles.

The best prevention measures include, but are not limited to: disinfecting clothing worn where animals have recently birthed prior to returning home or visiting another facility and proper disposal of placentas, soiled bedding and aborted fetuses. Routine sanitation of all livestock facilities such as the milk parlor, holding pens and birthing pens as well as proper disposal of waste products is good biosecurity. Individuals with weakened immune systems should avoid areas where animals have recently given birth (i.e. – pregnant women, transplant patients etc.) If you believe you may have been exposed to a potential animal case of Q fever, limit foot traffic to the affected area and see a physician immediately. Contact your local veterinarian for advice of treatment/management of your herd.

Farms that practice good management and animal husbandry, follow basic biosecurity protocols when introducing new animals into the herd and are meticulous in the maintenance and cleanliness of their facilities will greatly reduce the risk of *Coxiella* exposure to their personnel and livestock.

### TESTING OPPORTUNITIES

Comingled or individual milk samples may be submitted by producers to the state laboratory for Q fever testing and will cost \$17 for the first sample and \$2.75 for each additional sample. Samples should be frozen in a sealed, double whirl-pack and include a check made payable to “ISDA” with completed owner submission form found at [www.agri.idaho.gov](http://www.agri.idaho.gov) Animals > Animal Health Lab > Forms. Milk samples may be submitted to: ISDA Animal Health Lab, 2230 Old Penitentiary Road, Boise, ID 83702.

### Q FEVER OUTREACH SESSIONS

The ISDA will be holding outreach seminars that will be open to the public regarding control and prevention of Q fever. Topics will include: disease symptoms, testing and submission, ramifications of a positive test, proper disinfection/tissue disposal and industry concerns. If your organization would like an ISDA representative to speak to your members, please contact our office. We will do our best to accommodate. Log on to [www.agri.idaho.gov](http://www.agri.idaho.gov) for a list of future dates and locations.

#### Scheduled Meeting Dates:

November 13, 2011. Idaho Woolgrowers Association Annual Convention. Sun Valley Lodge, Sun Valley, ID.

Snake River Meat Goat Association Winter Meeting. Nampa, ID. Date/Time: TBA

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